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**A COMPARISON OF ATOMIC FORCE MICROSCOPY AND FIELD-EMISSION SCANNING ELECTRON MICROSCOPY FOR IMAGING THE SINGLE CELL OF E-COLI BACTERIA**

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**Abstract**

In this work, a comparative study using atomic force microscopy (AFM) and field emission–scanning electron microscopy (FE-SEM) has been carried out to assess the morphology of single cell E-Coli bacteria (E-Coli). E. coli bacteria are a major concern for public health. Attention was focused on the Certain Strains of E-Coli bacteria, because some strains can be toxic and cause [food poisoning](#). The E-Coli bacteria have attracted much research interest because this bacterium is easily to get, cheap and rapid reproductively. Imaging of E-Coli recently, improved by using high resolution microscopy. Current techniques for detection such as, AFM and FESEM has attracted great interest and emerging as a potentially powerful whole-organism fingerprinting tool for the rapid identification of bacteria. The obtained results of AFM and FESEM techniques have been compared to show the image quality of single cell E-Coli.

**Keywords:** *Atomic Force Microscopy; Field Emission Scanning Electron Microscopy; E- coli Bacteria*

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